

GREATNESS STEMS FROM IOWANS

GOVERNOR'S STEM ADVISORY COUNCIL

Science Education for Public Understanding (SEPUP) –

Science and Global Issues: Biology

2016-2017 STEM Scale-Up Program

Overview: *Science and Global Issues: Biology* is a research-based high school biology course (and individual biology units) developed by the Science Education for Public Understanding (SEPUP) team at the Lawrence Hall of Science at University of California Berkeley. It has a proven record of engaging students in scientific Inquiry and STEM and has been field-tested nationally and in Iowa.

Grade Levels: 9-12

Program Summary

SEPUP program units support the development of core science content and the practices of science and engineering through a variety of hands-on learning activities. Issues related to global sustainability in the life sciences serve as themes for the core ideas in the NGSS and provide continuity and thematic connections in each unit. The program features high quality hands on materials and support for the development of scientific and language literacy, and a nationally recognized, rubric driven assessment system. Every SEPUP unit uses personal and societal issues, such as global threats to human health, sustainable agriculture/ecosystem management and maintaining biodiversity and more, to provide thematic continuity and motivation for student investigations. Applicants can apply for an award and can select from the following four unit options to meet their needs: Ecology, Cell Biology, Genetics or Sustainability/Evolution.

Program Objectives and Description

With development support from the National Science Foundation, SEPUP's *SGI Biology* primary goals are to increase student engagement, motivation and learning in biology and to provide teachers with the support needed. *SGI Biology* engages students in a hands on, inquiry based model as students work in small collaborative groups to learn core science concepts, collect, analyze and apply scientific evidence to the real world issues.

What does the program provide to the educator?

A classroom set of student books for all selected units	Online access to the student book for all students
Complete unit specific materials package with equipment and consumables (including live material coupons) to support up to 5 non-concurrent sections of up to 32 students	Initial implementation and ongoing professional development opportunities with optional quarterly webinars offered
Choice of up to \$100 travel stipend or \$100 materials credit through Lab-aids	Online portal with all teacher and student resources in one convenient, easy to navigate location
Optional one time \$100 materials credit for teachers who cultivate business partnerships directly relating to the overarching issue of the unit	Electronic assessment test bank generator and editable presentation slides for every activity

What is required by the educator in order to implement this program?

Apply for the scale up award by March 1, 2016	Computers to complete 2-3 simulation activities
Attend a one day unit professional development workshop prior to implementation of the program	Access to very few basic not supplied items such as beakers, microscopes and a few perishable items

Website (with link to Standards Alignment): http://lab-aids.com/assets/images/content/correlations/NGSS_BIO_2013_v3-0.pdf

Program Video: Unit specific overviews with PD can be found at <http://lab-aids.com/professional-development/resources/training-videos/category/sgi>

Note: A temporary link to the SGI Biology teacher portal <http://ebooks.lab-aids.com/teacher-resources> (user name: iowastem password: biology)